

Dancing Robots
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1. Introduction

Some of today's robots are being designed and built to be socially interactive with humans. The research being done has gone on for many years and they have devoted most of their time developing gestures, expressions, and turn taking. Other areas that are being studied are dance and imitation.

2. Keepon

This brings me to Keepon, The Dancing Robot. See figure 1. Keepon is a beatbot that is socially rhythmic. It looks like a yellow snow man but it has two eyes that are cameras and a nose that is a microphone. The bottom is on a gimbal that allows it to nod, rock, bob up and down, and pan back and forth. The purpose of Keepon is to use exploration and also to learn about human behavior. It also helps little kids get information and to learn how to start moving. He is entertaining to kids and even grown ups to watch it dance.

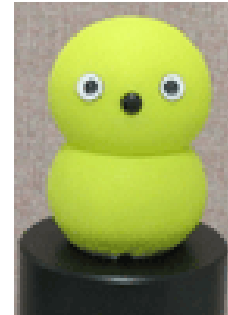


Figure 1:
Keepon Robot

The people that designed Keepon are named Hideki Kozima and Mark Michaloskie and others at Carnegie Mellon University. Keepon tries to feel the main beat of the music around it and starts bopping in time to the music.

3. Project

I have been working on another Keepon type Beatbot and I have named her Keepona in honor of Keepon. My plan is that she will be able to hula dance and listen. I think she will be a great friend for Keepon. I will try to build Keepona out of an NXT kit that we used for FIRST LEGO League. There is a sound sensor in this kit. I hope to make the robot respond to different sounds so that she dances. My exhibit will tell about dancing robots and display my own dancing robot. I will be working on this project with my mother who is one of our Botball team coaches. I have really enjoyed working on this project. The skills that I have learned I know will help me in the future.

References:

Marek P. Michalowski <http://www.cs.cmu.edu/~marekm/projects/beatbots/>
[Keepon dancing robot busts moves, hearts - Engadget](http://www.engadget.com/2007/03/23/keepon-dancing-robot-busts-moves-hearts)
<http://www.engadget.com/2007/03/23/keepon-dancing-robot-busts-moves-hearts/>